

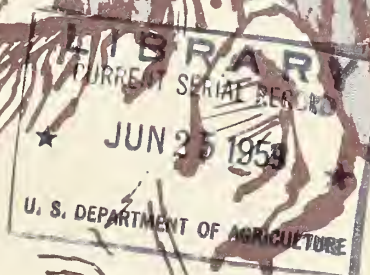
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hyperkeratosis of cattle

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hyperkeratosis of cattle

Hyperkeratosis is a disease that affects the skin of cattle. It takes its name from the thick, horny (keratinous) layer that forms on the skin of an affected animal's neck, shoulders, and withers. It can be prevented, but cannot be cured.

Affected calves usually die; older animals usually recover. The death rate is highest—up to 80 percent—in calves less than 6 months old. In older calves, the death rate is 50 to 60 percent; in mature cattle, it is 10 to 35 percent.

The disease caused an estimated loss of \$2 to \$4 million a year to American cattlemen and farmers during the late 1940's and early 1950's.

HOW CATTLE GET IT

Hyperkeratosis is caused by relatively small amounts of a chemical called highly chlorinated naphthalene. This is a manufactured wax, which sometimes is added to greases, oils, and wood preservatives for extra "body."

The poisonous chemical may enter an animal's body through the mouth, or it may be absorbed through the skin. The disease usually develops after cattle—

- Lick grease or oil containing highly chlorinated naphthalene.
- Eat feed pelleted in a machine that is lubricated with grease containing highly chlorinated naphthalene.
- Rub against oilers soaked with lubricants containing highly chlorinated naphthalene.
- Rub against posts treated with wood preservatives containing highly chlorinated naphthalene.

Lubricants and wood preservatives without the chemical do not cause hyperkeratosis. The disease does not spread from animal to animal.

The leathery skin condition was first recognized in 1941; the cause was unknown. It was called X-disease.

The U.S. Department of Agriculture, State experiment stations, and veterinary college scientists cooperated to find the cause. As soon as the cause was found, Department of Agriculture officials notified lubricant manufacturers. The manufacturers stopped adding highly chlorinated naphthalene to greases and oils likely to reach farms or to be used in lubricating pelleting machinery. The voluntary action removed the cause and virtually eradicated hyperkeratosis from the United States by 1954. However, the disease may break out again if highly chlorinated naphthalene finds its way into lubricants, feeds, or wood preservatives.



HOW IT AFFECTS CATTLE

Symptoms of hyperkeratosis vary according to the amount of highly chlorinated naphthalene the animal eats or touches and the length of exposure.



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Deeply creased skin, watering eyes and nose, and loss of hair are signs of hyperkeratosis.

Cases of hyperkeratosis may last several weeks to 3 months or more. Almost all animals that show marked skin lesions become emaciated and die.

Early symptoms are tears, watery discharge from the nose and licking into nostrils, and reddened mucous membranes of the mouth. Wartlike growths that appear in the mouth and on the tongue, cheeks, lips, muzzle, and nostrils often cause drooling or slobbering.

When your cattle show any of these symptoms, call a veterinarian immediately. Early diagnosis of hyperkeratosis will enable you to prevent additional cases.

Early symptoms of hyperkeratosis are similar to those of foot-and-mouth disease.

Loss of condition, poor appetite, depression, and progressive thickening of the skin follow early symptoms. Skin on the withers, sides of the neck, and back of the shoulders becomes thick, dry, leathery, and deeply creased. Folds become so hard that you cannot stretch them smooth with your hands. Hair on affected skin gets thin or disappears.



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Hereford with hyperkeratosis licks at nasal discharge. Note thick, heavily folded skin.

In extreme cases, skin of the legs, thighs, sides, and other parts of the body may be affected.

Diarrhea is common during late stages of the disease when the animal is obviously dying.

Vitamin A content of the blood becomes extremely low. An animal weakened by hyperkeratosis may die from a secondary infection—such as pneumonia, inflammation of the intestines, or abscesses.

Milk production of brucellosis-free cows with hyperkeratosis is greatly reduced. They may abort or drop stillborn calves.



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Wartlike growths, or lesions, appear on muzzle of affected animal. Similar lesions in the mouth cause drooling.

HOW TO PREVENT IT

You can prevent hyperkeratosis by keeping all sources of highly chlorinated naphthalene away from cattle. Since it is not always possible to determine what these sources are, take the following precautions to prevent the disease:

- Keep cattle away from machinery, or machinery away from cattle, so that they cannot lick or come into contact with grease and oil that might contain highly chlorinated naphthalene.
- Fence off drain pits used for collecting oil or places where crankcase oil is dumped.
- If you use pelleted feeds, ask your dealer for a copy of the warranty furnished by the oil company to the feed manufacturer. This warranty should state that the lubricant does not contain highly chlorinated naphthalene.
- Do not use old motor oil in devices against which cattle rub to oil themselves, unless you know that it is not "break-in" oil from a new motor and it is not oil from a vehicle in which an upper-cylinder lubricant was added to the gasoline.

WHAT TO DO WITH AFFECTED ANIMALS

Cattle with hyperkeratosis may be sold for slaughter.

If mature animals affected by hyperkeratosis are still eating, have no rise in temperature, and show no signs of secondary infection, it is reasonable to expect them to recover; they need not be slaughtered.

Many cows that have recovered from hyperkeratosis produce normal calves.

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